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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/701,456	11/06/2003	Steven Walak	12013/47701	8550

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EXAMINER

VORTMAN, ANATOLY

ART UNIT	PAPER NUMBER
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2835

DATE MAILED: 03/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

22

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/701,456	WALAK, STEVEN	
	<b>Examiner</b>	<b>Art Unit</b>	
	Anatoly Vortman	2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 January 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 6 and 21-35 is/are pending in the application.
- 4a) Of the above claim(s) 21-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Amendment***

1. Submission of the amendment filed on January 31, 2006 is hereby acknowledged. Claim 6 has been amended, claims 1-5 and 7-20 have been cancelled, and new claims 21-35 have been added. The Office action follows:

### ***Election/Restrictions***

2. Newly submitted claims 21-35 are drawn to a “method of using a two-way actuator” (I) and, therefore, directed to an invention that is independent or distinct from the inventions originally claimed, i.e. “a two-way actuator” and “method of providing two-way actuation” (II). Inventions II and I are related as a product / method of providing the product and a process of use the product. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case the process for using the product as claimed can be practiced with another materially different product, at least in part, because the process as claimed can use a two-way actuator, wherein the first component is made not from nitinol as claimed in product claims, but from any another shape memory material. Further, the product as claimed can be used in a materially different process of using that product, at least in part, because the process of using may utilize cooling of the composite

Art Unit: 2835

material not to a low cycling temperature equal to or below  $M_f$  of the first component, but simply to a temperature equal to or below  $M_f$  of the first component.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 27-35 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### *Specification*

3. Objections to the specification had not been addressed in the applicant's reply, therefore the objections are hereby reiterated:

The disclosure is objected to because of the following informalities: as recited on page 5, paragraph 22, the first component may be an elastic metal and is layered on a second component which may be a SMA. Throughout the claims the term first component refers to the SMA and the term second component refers to an elastic metal. The terminology should be consistent throughout the application. This requirement is not met in view of the use of the expressions first component and second component. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

Art Unit: 2835

pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 6 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim recites “a seamless tube”. The specification is silent about this feature. On the contrary, the specification recites that the tube has a seam (see p. 10 at [39] and Fig. 10A).

### *Claim Rejections - 35 USC § 102*

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 6 is rejected under 35 U.S.C. 102(b) as being anticipated by WO 97/04895 to Zadno-Azizi et al (cited on IDS) (counterpart of US/5611874).

Regarding claim 6, as best understood, the disclosure of Zadno-Azizi et al teaches all of the elements recited in the claim, and specifically, as shown on Fig. 2 and 3: a two-way actuator formed of composite material, wherein the composite material comprises: a first component comprising a first shape memory alloy (27); and a second component comprising an elastic metal (28), wherein said first component and said second component are metallurgically bonded

Art Unit: 2835

together to form said composite material comprising a body having a surface and a cladding covering at least part of the body and being in intimate contact with the surface, with body and cladding being formed of different materials and at least one of the materials being a shape memory alloy e.g. Nickel Titanium SMA (claim 1 and page 4 line 17 to page 6, line 15). It is also disclosed a method for forming this composite structure, according to which body and cladding by drawing down the assembly to a reduced cross sectional area and establishing intimate contact between body and cladding. In an example of forming a composite wire the center core is a SMA and the cladding may be stainless steel, or a highly conductive material such as copper, gold, silver, nickel, etc. The drawing operation creates strong metallurgical adhesion between the SMA core and the cladding and provides a very strong composite material (claims 19-22 and page 7, line 3 to page 9, line 16). A composite structure is additionally described (page 15, line 1 to page 17, line 6) which consists of two planar sheets one of them being a SMA which is cladded for example with stainless steel. Zadno-Azizi et al additionally teaches (Fig. 4 and 9-12) various shapes and forms of the actuator as recited in the claims, including a tube.

### ***Response to Arguments***

8. Contrary to the applicant's assertions, the present invention does not teach a "seamless" tube. Applicant contends that: "[T]he tubes in Figs. 4A and 4B "may be constructed, for example, by placing tubes within other tubes and drawing (in ¶ [0030] of the specification). Persons of ordinary skill in the art will understand that a "drawing" process inherently results in

a “seamless” tube”. This is not persuasive. The specification does not teach that “[T]he tubes in Figs. 4A and 4B “may be constructed...by drawing” as asserted by applicant, the specification teaches that: “The structures (emphasis added) of Figures 4A and 4B may be constructed, for example, by placing tubes within other tubes and drawing” (in ¶ [0030] of the specification), i.e., the preformed tubes are used to form structures shown on Fig. 4A and 4B. There is no inherency regarding the absence of the seams in the tubes. To establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing described, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

Therefore, the specification does not teach, neither explicitly nor implicitly, that tubes are seamless. On the contrary, the specification explicitly teaches exactly opposite, i.e., that the tube has a seam (see p. 10 at [39] and Fig. 10A).

### ***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

Art Unit: 2835

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anatoly Vortman whose telephone number is 571-272-2047. The examiner can normally be reached on Monday-Friday, between 10:00 am and 6:30 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Lynn Feild can be reached on 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Anatoly Vortman  
Primary Examiner  
Art Unit 2835

A handwritten signature in black ink, appearing to be 'A Vortman', with a long horizontal line extending to the right towards the printed name.

AV